



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0672

OSHPD Special Seismic Certification Preapproval (OSP)

Type: [X] New [] Renewal

Manufacturer Information

Manufacturer: NXT Power

Manufacturer's Technical Representative: Cherian Jose

Mailing Address: 7051 W. Wilson Ave, Norridge, IL 60706

Telephone: (312) 310-0894

Email: cherian.jose@nxtpower.com

Product Information

Product Name: UPS and Batteries

Product Type: UPS

Product Model Number: Integrity Max UPS

General Description: The UUTs are enclosures with boards, fans, fuses, breakers, trips, batteries, battery accessories, transformers, displays, and other accessories.

Mounting Description: Rigid, Rigid Base Mounted with Manufacturer Provided Brackets.

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: VMC Group

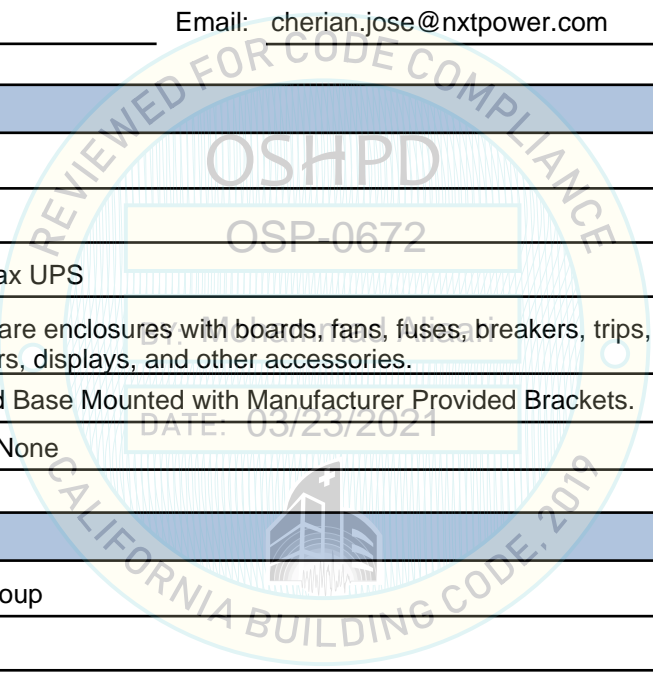
Contact Person: John Giuliano

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780

Email: john.giuliano@thvmcgroup.com

Title: President





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California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

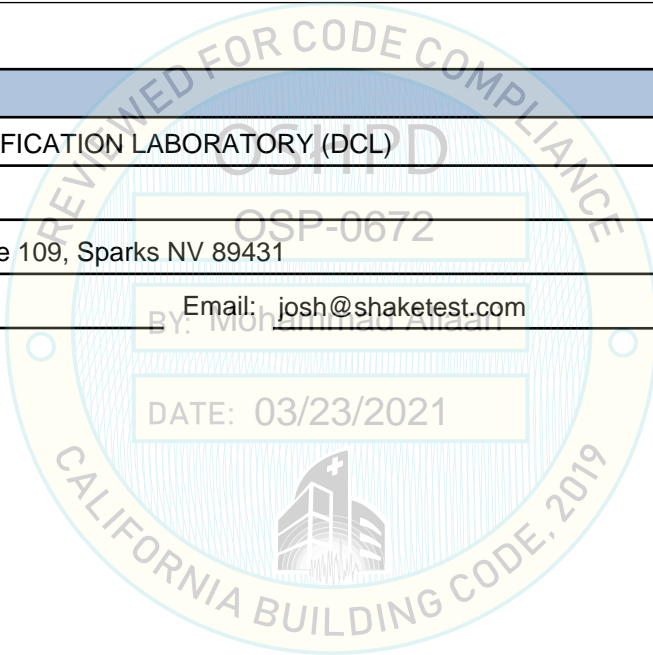
Company Name: THE VMC GROUP
Name: Kenneth Tarlow California License Number: S2851
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
 Other (Please Specify): _____

Testing Laboratory

Company Name: DYNAMIC CERTIFICATION LABORATORY (DCL)
Contact Person: Joshua Sailer
Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431
Telephone: (775) 358-5085 Email: josh@shaketest.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.44

SDS (Design spectral response acceleration at short period, g) = 2.0

a_p (Amplification factor) = 1

R_p (Response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

OSHPD Approval (For Office Use Only) - Approval Expires on 12/31/2025

Date: 3/23/2021

Name: Mohammad Aliaari Title: Senior Structural Engineer

Special Seismic Certification Valid Up to: SDS (g) = 2.0 z/h = 1

Condition of Approval (if applicable): DATE: 03/23/2021

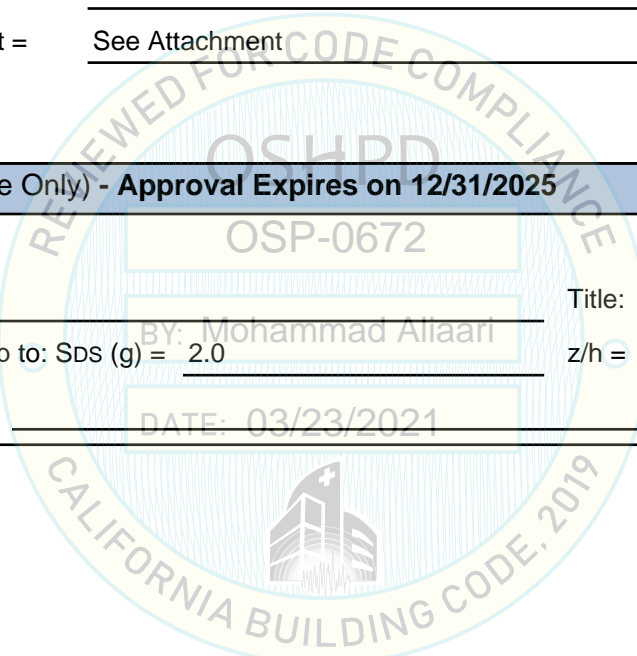


Table 1 - Certified Components



Mounting Configuration:	Rigid Base Mount with Manufacturer Provided Brackets
Test Levels:	SDS = 2.0g, z/h = 1.0
Manufacturer:	NXT Power
Product Type:	Uninterruptible Power Supply (UPS)
Product Line:	Integrity Max UPS

Model Number	Max. Dimensions (in)			Max. Weight (lb)	Unit
	Depth	Width	Height		
NPTU2200-HO-N	33.0	12.0	28.5	290	Extrapolated
NPTU2200-O-N	33.0	12.0	28.5	290	Extrapolated
NPTU3200-HO-N	33.0	12.0	28.5	290	Extrapolated
NPTU3200-O-N	33.0	12.0	28.5	290	Extrapolated
NPTU4200-HO-N	33.0	12.0	28.5	290	Extrapolated
NPTU4200-O-N	33.0	12.0	28.5	290	Extrapolated
NPTU5200-HO-N	33.0	12.0	28.5	290	Extrapolated
NPTU5200-O-N	33.0	12.0	28.5	290	Extrapolated
NPTU6000-HO-N	33.0	12.0	28.5	290	Extrapolated
NPTU6000-O-N	33.0	12.0	28.5	290	UUT1
NPTU8200-HO-N	33.0	12.0	28.5	350	Interpolated
NPTU10.0-O-N	32.8	12.0	28.5	350	UUT2
NPB48-192	29.0	12.0	29.0	420	UUT3

Notes:

1. Interpolated and extrapolated units vary by software and number of power receptacles. The maximum number of receptacles were tested in UUT1 and UUT2.

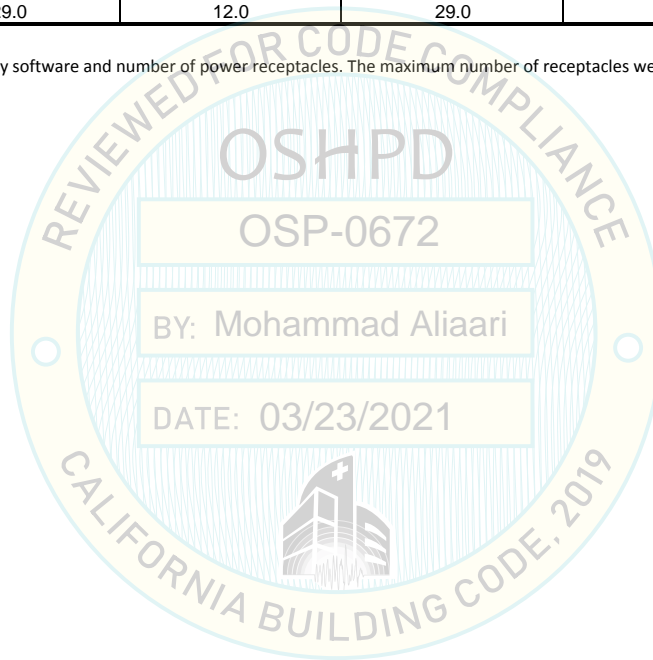


Table 2 - Nomenclature

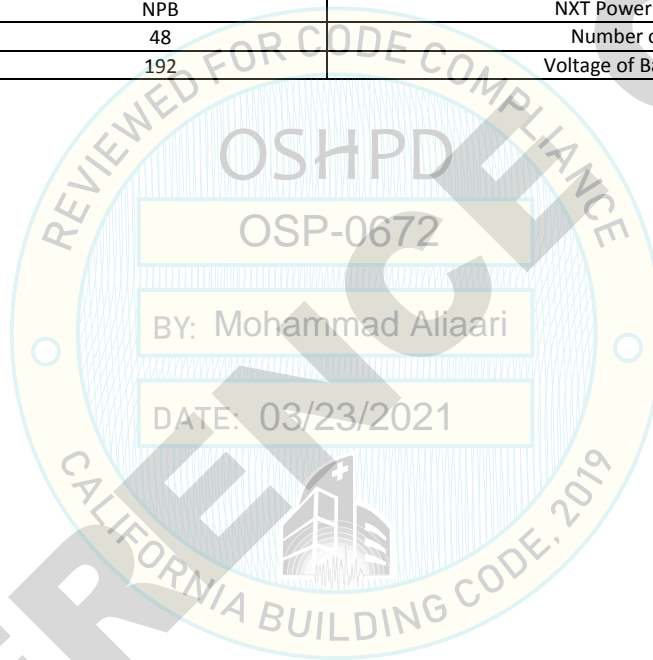


NPTU Units

Example Model Number:	ABCD-XXXX/XX.X-EF/E-G	
Example Value	Allowable Values	Definition
ABCD	NPTU	NXT Power Transformer UPS
XXXX	2200-8200	Power, measured in volt-amperes (VA)
XX.X	10.0	Power, measured in kilovolt-amperes (kVA)
EF	HO	Hard Wired
E	O	Receptacles
G	N	North America

NPB Units

Example Model Number	ABCXX-YYY	
Example Value	Allowable Values	Definition
ABC	NPB	NXT Power Battery Pack
XX	48	Number of Batteries
YYY	192	Voltage of Battery Cabinet



REFER

Table 3 - Certified Subcomponents



Mounting Configuration:	Rigid Base Mount with Manufacturer Provided Brackets
Test Levels:	SDS = 2.0g, z/h = 1.0
Manufacturer:	NXT Power
Product Type:	Uninterruptible Power Supply (UPS)
Product Line:	Integrity Max UPS

Subcomponent Type	Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
Enclosures	4300-npu	Kehua	Sheet Metal Housing	Carbon Steel (Galvanized)	20	UUT1, UUT2
	4300-nptu	Kehua	Sheet Metal Housing	Carbon Steel (Galvanized)	20	UUT3
Boards	4102-07617	Kehua	Logic Board	PCB	<1	UUT1, UUT2
	4102-07624	Kehua	Power Amplifier Board	PCB	9	UUT1
	4102-07626	Kehua	Power Amplifier Board	PCB	9	UUT2
	4102-07625	Kehua	Power Board	PCB	2	UUT1, UUT2
	4102-07619	Kehua	Filter Board	PCB	1	UUT1
	4102-07620	Kehua	Filter Board	PCB	1	UUT2
	4102-07623	Kehua	Communication Board	PCB	1	UUT1, UUT2
	4102-03844	Kehua	Button board KR1000 (V6.0) R6	Plastic	<1	UUT1, UUT2
	4102-08022	Kehua	Input Filter Board	PCB	2	UUT1, UUT2
	4102-08023	Kehua	Output Capacitor Board	PCB	1	UUT1, UUT2
4102-07860	Kehua	Battery Fuse Board	PCB	1	UUT1, UUT2	
Fans	AB8025H12	Minebea Co. Ltd.	Internal Fan (FAN1,FAN2)	Plastic	<1	UUT1, UUT2
	AB8025M12	Heyuan Yongjia Industry Co. Ltd.	Rear Fan (FAN3,FAN4)	Plastic	<1	UUT1, UUT2
Fuses, Breakers, Trips, and Accessories	63ET	Bussmann	Fuse (Power)	Ceramic, Copper	<1	UUT1
	80ET	Bussmann	Input Fuse (FU1)	Ceramic, Copper	<1	UUT2
	100ET	Bussmann	Battery Fuse (FU2)	Ceramic, Copper	<1	UUT2
	S201M-C50UC	ABB	Circuit Breaker (Battery)	Plastic, Carbon Steel, Copper	<1	UUT1, UUT2
	S2C-A2	ABB	Shunt Trip (Battery CB)	Plastic, Carbon Steel, Copper	<1	UUT1, UUT2
	NDB1-125 C63/2	Shanghai Liangxin Electrical Co. Ltd.	Circuit Breaker (Input)	Plastic, Carbon Steel, Copper	<1	UUT1, UUT2
	MX+OF	Shanghai Liangxin Electrical Co. Ltd.	Shunt Trip (Input CB)	Plastic, Carbon Steel, Copper	<1	UUT1, UUT2
	SD	Shanghai Liangxin Electrical Co. Ltd.	Auxiliary Contact (Input Circuit Breaker)	Plastic, Carbon Steel, Copper	<1	UUT1, UUT2
	NDB1-125 C63/2	Shanghai Liangxin Electrical Co. Ltd.	Circuit Breaker (QF4)	Plastic, Carbon Steel, Copper	<1	UUT1
	DSTB22-12P	Shenzhen Connection Electronic Co. Ltd.	Terminal Block (XT)	Plastic, Carbon Steel, Copper	1	UUT2
Batteries and Battery Accessories	3LBB-63 X382.2 G251	Beijing RKK	Transfer Switch	Plastic, Carbon Steel, Copper	<1	UUT1, UUT2
	SBS75G	Anderson Power Products Inc.	Power connector (External Battery)	Plastic	<1	UUT1, UUT2, UUT3
	2208-15655	Kehua	Battery Cable Set	Copper Wire	<1	UUT1, UUT2, UUT3
Transformers	HR 1234W F2	CSB	Battery, VRLA UPS12460-F2FR .25 inch tab	Lead Acid	6	UUT1, UUT2, UUT3
	2505-00866	Kehua	Transformer (T1) TV6K-240A	Copper Wire, Epoxy	45	UUT1
Displays	2505-00863	Kehua	Transformer (T1) TV10K-240A	Copper Wire, Epoxy	50	UUT2
	2015-00103	Kehua	Liquid Crystal Display Module	LCD	<1	UUT1, UUT2

Table 4 - Tested Units



Mounting Configuration:	Rigid Base Mount with Manufacturer Provided Brackets
Test Levels:	SDS = 2.0g, z/h = 1.0
Manufacturer:	NXT Power
Product Type:	Uninterruptable Power Supply (UPS)
Product Line:	Integrity Max UPS

Model Number	Dimensions (in)			Weight (lb)	Unit
	Depth	Width	Height		
NPTU6000-O-N	33.0	12.0	28.5	290	UUT1
NPTU10.0-O-N	32.8	12.0	28.5	350	UUT2
NPB48-192	29.0	12.0	29.0	420	UUT3



UNIT UNDER TEST - Summary Sheet



UUT1

Manufacturer:	NXT Power
Product Type:	Uninterruptible Power Supply (UPS)
Product Line:	Integrity Max UPS
Model Number:	NPTU6000-O-N
Mounting:	Rigid Base Mount with Manufacturer Provided Brackets
Construction Summary:	Painted Carbon Steel
Options / Subcomponent Summary:	

The UUT is an enclosure filled with boards, fans, fuses, breakers, trips, batteries, transformers, displays, and other accessories.

Interface Connections:

UUT1 was mounted to the shake table interface plate with (2) 11 gauge galvanized carbon steel manufacturer provided brackets (Part Number: 001-00021-01-FNL). Each bracket was mounted to the shake table interface plate with (3) 3/8" grade 8 bolts and washers. The bolts were spaced at 4.5" depthwise on each bracket and 13" widthwise across the unit. Each bracket was mounted to the UUT with (2) M8 Class 8.8 bolts and washers. The bolts were spaced at 11" depthwise on each bracket.

UUT Properties

UUT1	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	290	33.0	12.0	28.5	11.0	20.0	20.5

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54



Figure 1. Overall UUT



Figure 2. Bracket Mounting

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems were maintained.

UNIT UNDER TEST - Summary Sheet



UUT2

Manufacturer:	NXT Power
Product Type:	Uninterruptible Power Supply (UPS)
Product Line:	Integrity Max UPS
Model Number:	NPTU10.0-O-N
Mounting:	Rigid Base Mount with Manufacturer Provided Brackets
Construction Summary:	Painted Carbon Steel
Options / Subcomponent Summary:	

The UUT is an enclosure filled with boards, fans, fuses, breakers, trips, batteries, transformers, displays, and other accessories.

Interface Connections:

UUT2 was mounted to the shake table interface plate via (2) 11 gauge galvanized carbon steel manufacturer provided brackets (Part Number: 001-00021-01-FNL). Each bracket was mounted to the shake table interface plate with (3) 3/8" grade 8 bolts and washers. The bolts were spaced at 4.5" depthwise on each bracket and 13" widthwise across the unit. Each bracket was mounted to the UUT with (2) M8 Class 8.8 bolts and washers. The bolts were spaced at 11" depthwise on each bracket.

UUT Properties

UUT2	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	350	32.8	12.0	28.5	13.0	23.5	24.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54



Figure 1. Overall UUT



Figure 2. Bracket Mounting

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems were maintained.

UNIT UNDER TEST - Summary Sheet



UUT3

Manufacturer:	NXT Power
Product Type:	Uninterruptible Power Supply (UPS)
Product Line:	Integrity Max UPS
Model Number:	NPB48-192
Mounting:	Rigid Base Mount with Manufacturer Provided Brackets
Construction Summary:	Painted Carbon Steel
Options / Subcomponent Summary:	

The UUT is an enclosure filled with boards, fans, fuses, breakers, trips, batteries, transformers, displays, and other accessories.

Interface Connections:

UUT3 was mounted to the shake table interface plate via (2) 11 gauge galvanized carbon steel manufacturer provided brackets (Part Number: 001-00029-01-FNL). Each bracket was mounted to the shake table interface plate with (3) 3/8" grade 8 bolts and washers. The bolts were spaced at 6" depthwise on each bracket and 13" widthwise across the unit. Each bracket was mounted to the UUT with (3) M8 Class 8.8 bolts and washers. The bolts were spaced at 7" depthwise on each bracket.

UUT Properties

UUT3	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	420	29.0	12.0	29.0	7.5	14.5	23.5

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.34	0.54



Figure 1. Overall UUT



Figure 2. Bracket Mounting

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems were maintained.